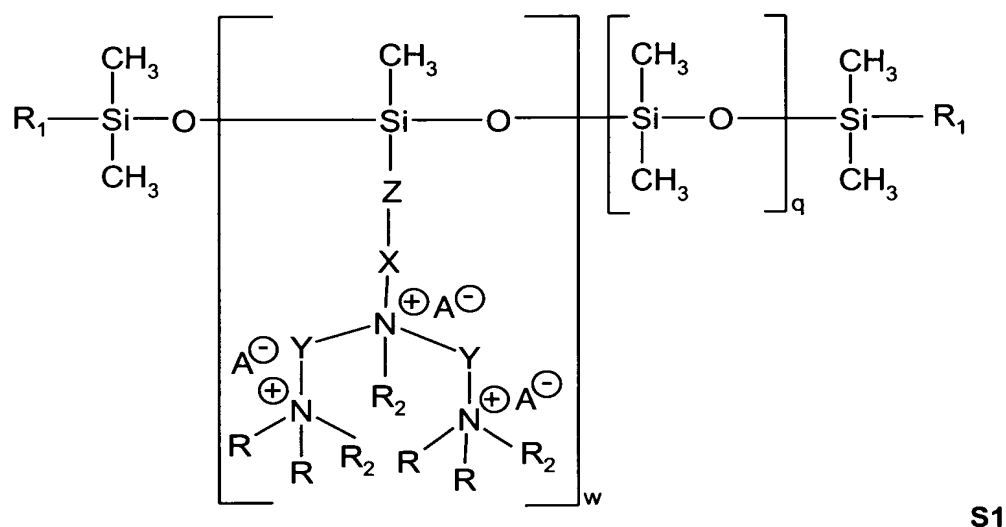


CLAIMS

1. Multiply quaternized polysiloxanes of the formula (S1)

5



where

the sum total of (q + w) has a range of 10-1500 and the q/w ratio has a range of 5-600,

10

R is C₁-C₄-alkyl, linear or branched,

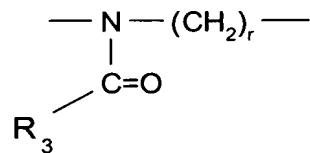
R₁ is hydrogen, C₁-C₃-alkyl or C₁-C₃-alkoxy,

R₂ is C₁-C₇-alkyl or benzyl,

15

X is a direct bond

or



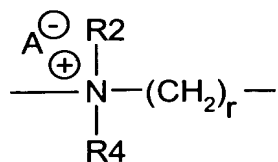
20

where

r is 1-4 and

R₃ is C₁-C₇-alkyl or -NH-C₁-C₇-alkyl,

or



5

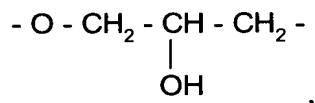
where

R_2 and r are each as defined above,

R_4 is C_1 - C_3 -alkyl,

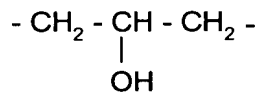
10

or



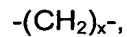
Y is

15



or

20



where

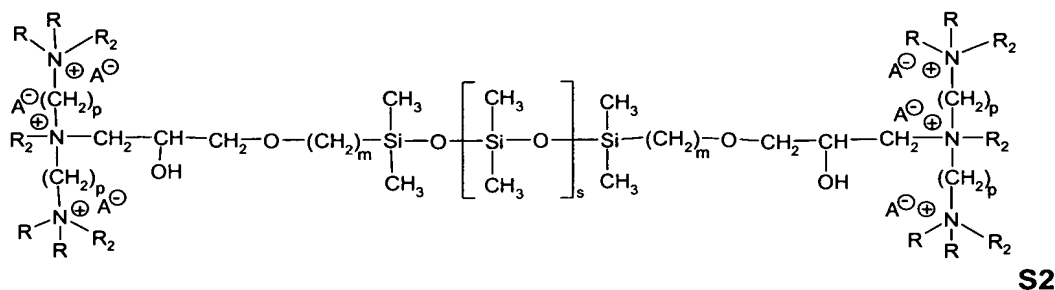
x is 1-4,

Z is C_2 - C_4 -alkylene, linear or branched and

25

A^- is $\text{CH}_3\text{OSO}_3^-$, chloride, bromide, iodide or tosylsulfate $^-$,

or of the formula **(S2)**



where

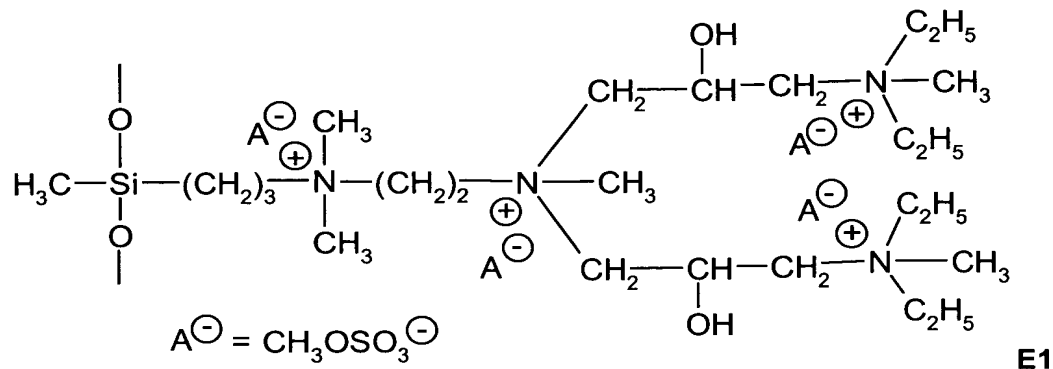
R, R₂ and A⁻ have the same meaning as in formula (S1),

- 5 m is 1 - 4,
 p is 1 - 4, and
 s is 5 - 1500

- 10 2. Multiply quaternized polysiloxanes according to Claim 1 wherein
 the sum total of (q + w) has a range of 15-600 and the q/w ratio has a range of
 10-400,

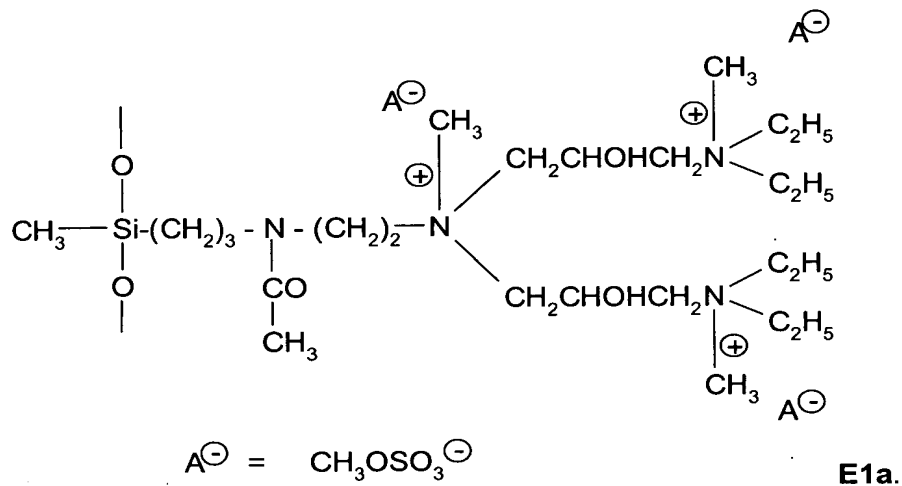
- 15 R is methyl, ethyl or propyl,
 R₁ is H, methyl, -OCH₃ or -OC₂H₅,
 R₂ is methyl or benzyl,
 R₃ is methyl or -NH-C₄H₉,
 R₄ is methyl,
 Z is C₃-alkylene, linear or branched,
 A⁻ is CH₃OSO₃⁻ or chloride,
 m is 3,
 p is 3,
 s is 10 - 600,
 r is 2, and
 x is 3.
- 25

3. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E1



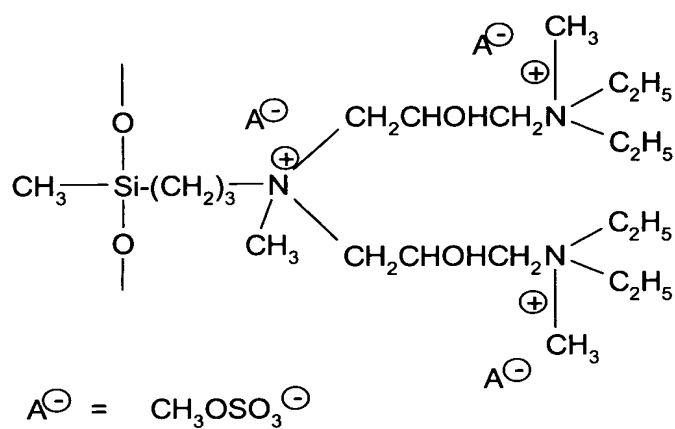
5

or having structural units of the formula E1a



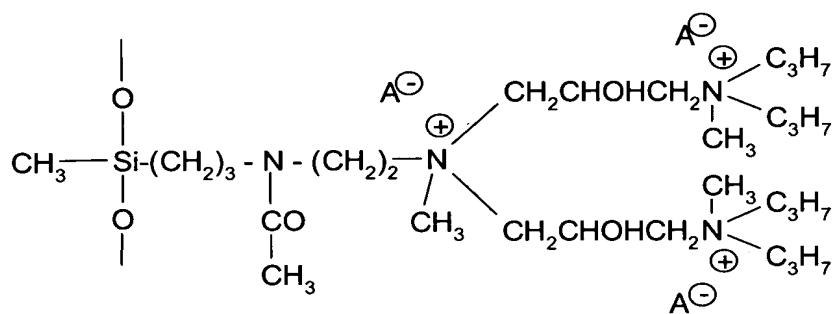
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4. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E2



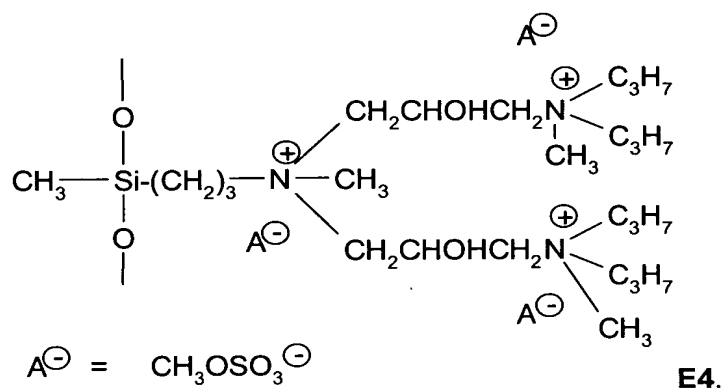
E2.

5. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural
5 units of the formula E3

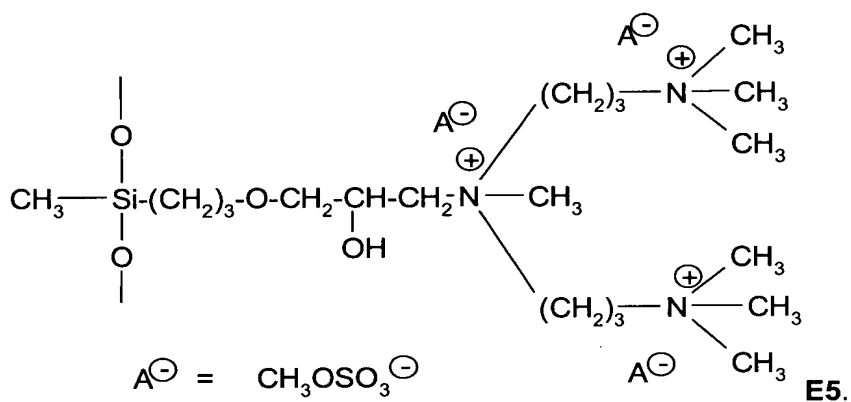

$$A^{\ominus} = \text{CH}_3\text{OSO}_3^{\ominus}$$

E3.

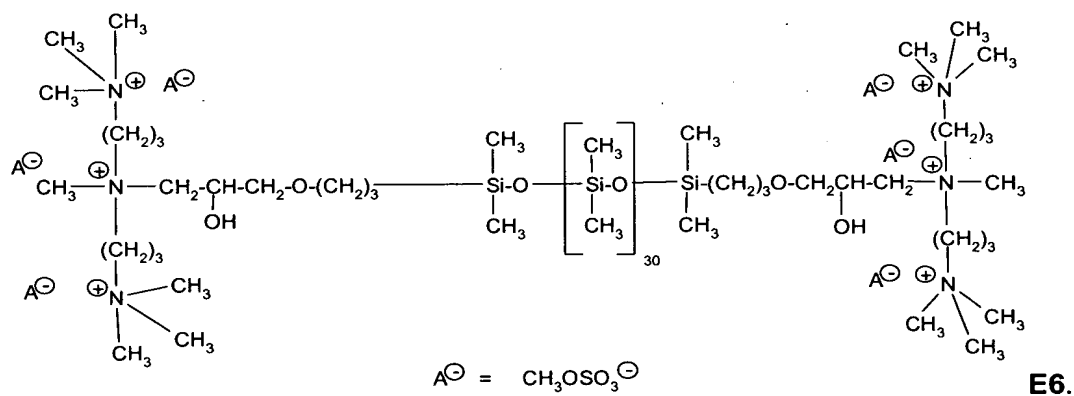
- 10 6. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E4



7. Multiply quaternized polysiloxanes according to Claim 1 or 2 having structural units of the formula E5



- 10 8. Multiply quaternized polysiloxanes according to Claim 1 or 2 of the formula E6



9. Process for preparing multiply quaternized polysiloxanes of the formula (S1) according to any one of Claims 1 to 6, characterized in that the following reactions are carried out:
- 5 A) reaction of dialkylamine with epichlorohydrin to form a glycidyldialkylamine,
 - B) reaction of the glycidyldialkylamine with 3-aminoalkyldialkoxymethylsilane or with 3-(2-aminoalkylamino)alkyldialkoxymethylsilane to form the corresponding silanes,
 - 10 C) reaction of the resultant silanes with polydimethylsiloxanediol or with octamethylcyclotetrasiloxane or with tetraalkyl- or aryltrialkyl-ammonium hydroxide to form polysiloxanes, with subsequent quaternization to form the multiply quaternized polysiloxanes.
- 15 10. Process for preparing multiply quaternized polysiloxanes of the formula (S1) where Y is $-(CH_2)_x-$ and X is
- $$\begin{array}{c}
 -O-CH_2-CH-CH_2- \\
 | \\
 OH
 \end{array}$$
- 20 characterized in that the following reactions are carried out:
- A) reaction of N'-[3-(dialkylamino)alkyl]-N,N-dialkylalkane-1,3-diamine with dialkoxy(3-glycidyloxyalkyl)methylsilane,
 - B) reaction of the reaction product from A) with polydimethylsiloxanediol or with octamethylcyclotetrasiloxane, with subsequent quaternization.
- 25
11. Process for preparing multiply quaternized polysiloxanes of the formula (S2) according to Claims 1 or 2, characterized in that the following reactions are carried out:
- 30 A) reaction of octaalkylcyclotetrasiloxane with 1,1,3,3-tetraalkyldisiloxane,
 - B) reaction of the reaction product from A) with an allyl glycidyl ether and a hydrosilylation catalyst;
 - C) reaction of the reaction product from B) with N,N,N',N'-tetraalkyldialkylenetriamine to form the polysiloxane and subsequent
 - 35 quaternization.

12. Use of multiply quaternized polysiloxanes according to Claims 1 to 8 as a softener in the textile industry.